Perspective

DOI: https://doi.org/10.4038/sljpsyc.v16i2.8659

Rise of the machines: Will psychiatrists be replaced by artificial intelligence?

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SL J Psychiatry 2025; 16(2): 53-55

Introduction

Over recent years, one of the major technological changes we've observed is the emergence of generative artificial intelligence. This space spans the spectrum from self-driving cars to virtual assistants and possibly even synthetic intimate partners. These advancements in AI represent punctuated leaps in technological and transhuman evolution.

This has sparked conversations about the redundancy of the human workforce in repetitive and programmable tasks. There are discussions about a potential large-scale replacement of factory workers, long-distance truck drivers, and even computer programmers. These projections are supported by promises of greater efficiency, fewer accidents leading to morbidity and death, and cost-effective scalability.

The conversation has since shifted toward whether health professionals – especially doctors – can be "made" using large language models (LLMs), as a way to address resource limitations and availability constraints. But can AI truly mimic or evolve to match human intuition, empathy, and clinical expertise, particularly in psychiatry? The ultimate question arises: Could psychiatrists – who hold a complex understanding of human emotion, behavior, and mental health – one day be replaced by AI?

Convergence

Technological advancement has been intertwined with human progress since the beginning of civilization. These developments have benefited the general wellbeing of Homo sapiens, as well as the evolution of medical sciences. From ancient papyri used to communicate about mental disorders to new therapeutic techniques, technology has often appeared to make a positive impact. However, not all innovations stood the test of time – some, like Orgone devices, were fanciful, while others, like insulin coma therapy, proved harmful. Thus, technological advancement does not automatically equate to clinical effectiveness or safety.

The same caution applies to AI. While AI's ability to process massive volumes of data may appear advantageous in mental health care, does that necessarily make it beneficial? And more critically – does it render psychiatrists obsolete?

The human condition transcends binary code. It involves nuance, context, narrative, and an intuitive sensitivity that cannot be captured by an algorithm or LLM. That said, some of the tasks traditionally performed by psychiatrists can indeed be delegated to AI tools. For example, transcription-based tools can generate psychiatric notes and referral letters from clinical consultations. However, these tools come with caveats – users are advised to thoroughly review the generated content before using it. Much like the calculator, AI tools may reduce administrative workload, but they do not supplant the psychiatrist.

AI can also support mental health care in ways previously requiring a clinician. It can act as a chatbot delivering virtual or computer-based Cognitive Behaviour Therapy (CBT). This is feasible due to CBT's structured format, though more difficult to apply in psychodynamic approaches. Additionally, AI can analyze large datasets across various geographies and timelines without the biases often inherent in human analysis. Still, these functionalities do not replicate the humanness at the heart of psychiatry.

Singularity

The concept of "Singularity" refers to a future moment when AI surpasses human intelligence, leading to unpredictable societal shifts. If this level is reached, it could potentially revolutionize all industries, including medicine. Though this future seems far off, it's not inconceivable.

The benchmark to assess this would be the Turing Test, which evaluates whether AI can abstract logic, emotions, and context that aren't explicitly stated. But the real test is this: Can a machine foster the kind of therapeutic

alliance that supports patients through their deepest vulnerabilities? Will it be able to discern and prioritize emotions? Can it intuit a patient's internal states?

In clinical psychiatry, intuition is a core skill. Unlike checklist-driven diagnoses using DSM-5 criteria, psychiatrists rely on a "precox feeling"– subtle variations in interpersonal and nonverbal cues that suggest a psychological state. These signs are often seen, not spoken. Can a machine ever "observe," or will it merely "see"? Observational skills are honed through lived experience and learning – qualities not easily coded into ones and zeroes.

At the core of this debate lies the question of consciousness. For AI to truly replace psychiatrists, it would need self-awareness and emotional empathy. But current AI lacks these features. The so-called "ghost in the machine" remains just that – a distant dream. Despite the ever-present potential, we cannot be certain this will manifest itself even in the next hundred years.

More art than science

Psychiatry is often described as more of an art than a science. Eric Kandel emphasized the importance of psychiatrists being not just clinicians, but also neuroscientists, psychopharmacologists, and psychotherapists. While grounded in scientific knowledge, the practice of psychiatry requires intuition, empathy, and a deep understanding of the human psyche.

The therapeutic relationship is a cornerstone of healing in psychiatry. It's based on non-verbal cues, contextual understanding, and personalized care that addresses the totality of a patient's life.

As emphasized by psychoanalysts like Freud, therapists bring their own lived experiences, traumas, and existential insights into their work. It's often said that the older the psychiatrist, the more wisdom they bring – though this is not always the case.

So, while AI might be able to identify statistical significance on a forest plot, can it understand the "art" of psychiatry? That human-centered nuance is currently – and perhaps permanently – out of reach.

Medico-Legal and ethical aspects of AI in psychiatry

A major concern about AI in psychiatry is data security. Sensitive mental health data might be accessed by third parties, leading to breaches, identity theft, or coercion. These risks would only be amplified if AI fully replaced clinicians.

In forensic psychiatry, where higher security standards are expected, data breaches could be catastrophic. Then there's the issue of indemnity: if a patient suffers harm under AI-based care, who is liable? The developer? The institution? If a fault is found, would all prior cases need reviewing?

Moreover, ethical nuances come into play. Would an AI know when to break confidentiality in a Tarasoff scenario? Would it favor a utilitarian approach over a person-centered one? Could it understand the moral tension between principle-based, Kantian, and virtue-based ethics?

An AI psychiatrist would be expected to make decisions rooted in ethical principles, not just arguing them. Whether machines could ever meet that expectation is uncertain. At worst, they might revert to Asimov's three laws of robotics.

Psychiatry, as a fusion of hard and soft sciences, requires an ethical and emotional intelligence that remains elusive to current AI capabilities. Still, we must be mindful of these complexities as we move forward.

Make psychiatry great again

AI is inevitable and increasingly integral in medical practice. While the great replacement of psychiatrists may be far off, we must future-proof the next generation. Historically, psychiatric training emphasized memorizing research, quoting articles, and recalling statistics. Going forward, trainees must be taught to leverage technology for information access and to critically appraise data. Clinical skill development and psychodynamic thinking remain essential, but we must also include training in critical thinking, leadership, and clinical governance. These changes need to be made sooner than later as the world is changing at a rapid pace, and the next generation needs to keep up with it.

These are aspects of psychiatry that AI cannot yet replicate. While repetitive and administrative tasks can be automated, the core of psychiatric care – connection and empathy – remains human.

AI may also reduce stigma and improve access. With AI-powered apps, people who might avoid human therapists can seek help anonymously. AI can also extend care to underserved areas with few professionals.

A future far, far away (Conclusion)

The future of psychiatry lies in collaboration, not replacement. AI will continue to evolve and enhance mental health care, but it will not make psychiatrists obsolete any time soon.

A hybrid future is most likely – where AI handles data, diagnostics, and repetitive tasks, allowing human psychiatrists to focus on empathy, insight, and therapeutic relationships. This is already happening, with LLMs being used for notetaking and documentation.

In conclusion, while AI will certainly reshape psychiatry, replacing the psychiatrist is not an imminent reality. The real challenge is to ensure AI is used ethically, effectively, and in service of the irreplaceable human element at the heart of mental health care.

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